



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,242	03/18/2004	Hans-Jurgen Muller	P04,0038	5979

26574 7590 09/12/2006

SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER

KIKNADZE, IRAKLI

ART UNIT	PAPER NUMBER
----------	--------------

2882

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/803,242	Applicant(s) MULLER, HANS-JURGEN	
	Examiner Irakli Kiknadze	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-14 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/04; 7/24/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response to the Office action dated March 9, 2006 the Amendment has been received on June 13, 2006.

Claims 8 and 10 have been amended.

Claims 1-21 are currently pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

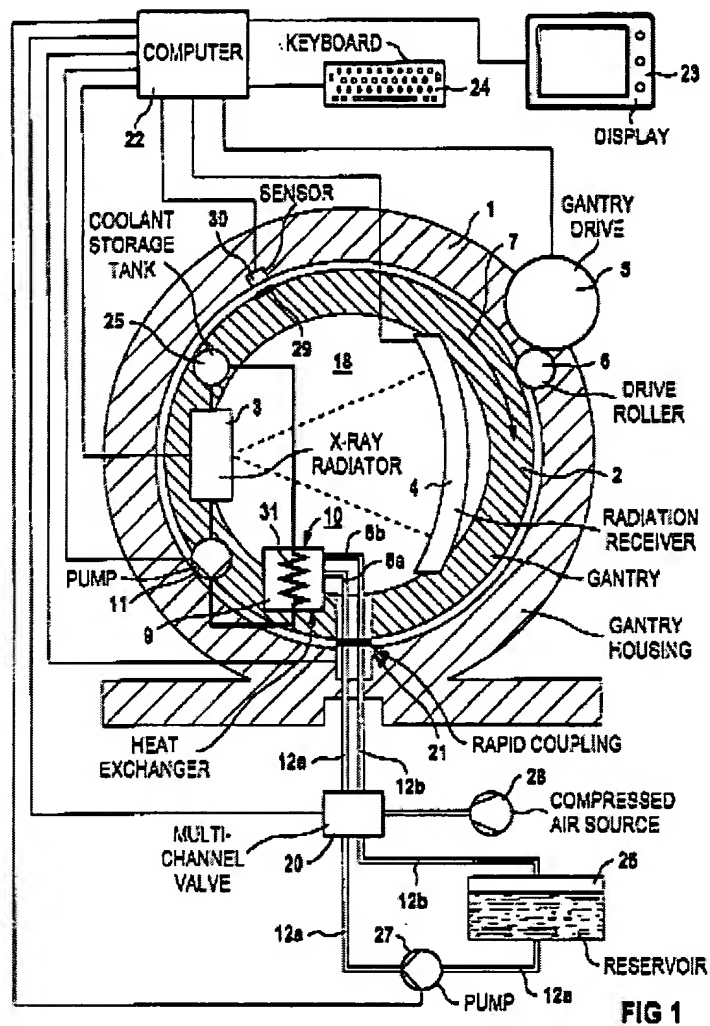
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 11, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hell et al. (US Patent 6,412,979 B1).

With respect to claims 1, 17 and 18, Hell teaches a cooling method and system for components (such as a heat exchanger (10)) of a computer tomography system arranged in a gantry housing (Fig.1; column 4, lines 33-35), comprising:
an air feed device including:

an air compressor (28) operable to compress air (Fig.1; column 5, lines 5 and 6);
and streaming elements (12a and 12b) connected to receive and dispose air flows onto
the components (10) to be cooled (Fig. 1; column 5, lines 5-10).



With respect to claim 2, Hell teaches that the air compressor (35) positioned adjacent to the elements to be cooled. The air compressor (35) is operable to accept and compress ambient air (Fig. 1).

With respect to claim 11, Hell teaches nozzle heads arranged and fashioned such that the compressed air is guided directly to stationary arranged components inside the gantry housing (Fig.1; column 5, lines 4-9).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hell et al. (US Patent 6,412,979 B1).

With respect to claim 4, Hell teaches claimed invention except for heat-insulated lines from the compressor to the computer tomography system and into the gantry housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the heat-insulated lines from the compressor to the computer tomography system and into the gantry housing in the apparatus of Hell, since such a modification would improve cooling of components arranged in the gantry by preventing the unnecessary heat exchange with higher degree of efficiency.

Art Unit: 2882

6. Claims 1, 2, 12-14, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hounsfield et al. (US Patent 4,115,697) in view of Woollenweber et al. (US Patent 6,129,524).

With respect to claims 1, 17 and 18, Hounsfield teaches a cooling method and system for components of a computer tomography system arranged in a gantry housing, comprising: an air feed device (29) and streaming elements connected to receive and dispose forced air flows onto the components to be cooled (Fig. 1; column 3, lines 23-33 and column 4, lines 6-9). Hounsfield fails to teach an air compressor.

Woollenweber teaches an air compressor (10) compressing air and directing the cool compressed air at the high pressure to the temperature sensitive electronic components (column 2, lines 30-35 and 42-44) to provide cooling effect by heat transfer relationship (column 3, lines 1-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the cooling effect of the flow of compressed air from the compressor as suggested by Woollenweber in the system and method of Hounsfield, since such a modification would improve cooling of components arranged in the gantry by considerably enhancing forced compressed air flow to the components.

With respect to claim 2, Woollenweber teaches that the air compressor (10) positioned adjacent to the elements to be cooled. The air compressor (10) is operable to accept and compress ambient air (40) (Fig. 1).

With respect to claims 12-14 and 20, Hounsfield teaches flow-through openings (31), which may be fan assisted, through which heated air escapes from the gantry housing (see Fig; column 3, lines 30-33).

7. Claims 3, 16, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hounsfield et al. (US Patent 4,115,697) and Woollenweber et al. (US Patent 6,129,524) as applied to claims 1 and 18 above, and further in view of Crago (US Patent 4,264,282).

With respect to claims 3, 16, 19 and 21, Hounsfield as modified by Woollenweber teaches claimed invention except for cooling and dehumidifying the compressed air. Crago teaches an air compressor apparatus accepting and compressing an ambient air with cooling and dehumidifying capabilities (column 3, lines 40-50). It would have been obvious to one of ordinary skill in the art at the at the time the invention was made to employ the teachings of cooling and dehumidifying the compressed air as suggested by Crago in the invention of Hounsfield as modified by Woollenweber, since such a modification would considerably improve cooling of components arranged in the gantry if the incoming compressed air is previously precooled. Further, dehumidifying the compressed air would allow user to prevent the formation of water vapor in the gantry housing due to the heat generated in the operation of the computer tomography system.

Allowable Subject Matter

8. Claims 5-10, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 5-10, prior art fails to teach or make obvious a cooling system for components of a computer tomography system arranged in a gantry housing, comprising: an annular carrier ring in or on which at least one of the components to be cooled is arranged, the annular carrier ring being rotatable around a measurement space in the gantry housing; and at least one exhaust element mounted stationary and disposed in or on the gantry housing through which the compressed air flows onto the components passing said at least one exhaust element upon a rotation of the carrier ring as claimed including all of the limitations of the base claim and any intervening claims.

With respect to claim 15, prior art fails to teach or make obvious a cooling system for components of a computer tomography system arranged in a gantry housing, comprising: two coaxial bearings on two opposite sides on a stationary part of the computer tomography system by which the gantry housing is positioned around an axis, the cooling system being fashioned such that the heated air in a region of at least one of the bearings is guided out of the gantry housing in the stationary part as claimed including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments with respect to claims 1-4, 10-14 and 16-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kiknadze
August 21, 2006

IK

Courtney Thomas
Courtney Thomas
Primary Examiner